

BOBBY JINDAL
GOVERNOR



HAROLD LEGGETT, PH D
SECRETARY

State of Louisiana
DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL SERVICES

Allan D Gallant, HSSE Manager
Motiva Enterprises LLC Norco Refinery
P O Box 10
15536 River Road
Norco, LA 70037

RE Motiva Enterprises LLC Norco Refinery
AI#1406/LAD008186579/ PER20080005
Draft Decision Document for Site Specific Variance from the Classification as a Solid Waste for
Hazardous Waste Codes K171/K172 Pursuant to LAC 33 V 105 O 1 c and 105 2 c

Dear Mr Gallant

The Waste Permits Division has reviewed your request for a variance from the classification as a solid waste for hazardous waste codes K171/K172 pursuant to LAC 33 V 105 O 1 c and 105 O 2 c dated April 3 2008 at the Norco Refinery site

Based on the information submitted the Waste Permits Division proposes to issue a site specific variance to conduct hydro processing activities within unit reactors RGHT Unit Reactors PV 8100 and PV 81019 SBA Unit Reactor PV 448 operated at your facility Attached is a copy of the proposed draft decision document for the site specific variance and additional documentation which will be made available during a thirty (30) day comment period A final decision document will be prepared after the end of the public comment period

Please reference your Agency Interest Number (1406) EPA ID Number (LAD008186579), and Permit Activity Number (PER20080005) on all future correspondence pertaining to this matter If you have any questions please contact Mr Keith R Williams of the Waste Permits Division at (225) 219-3011 or Ms Soumaya Ghosn of the Public Participation Group at (225) 219 3276

Sincerely

A handwritten signature in black ink, appearing to read "Bijan Sharafkhani".

Bijan Sharafkhani P E
Administrator
Waste Permits Division

krw

Attachment

c Chuck Handrich – Waste Permits Division
Tyler Ginn – Enforcement Division

PUBLIC NOTICE
LOUISIANA DEPARTMENT OF ENVIRONMENTAL QUALITY (LDEQ)
MOTIVA ENTERPRISES LLC - NORCO REFINERY
DRAFT DECISION DOCUMENT TO GRANT A SITE-SPECIFIC VARIANCE FROM
CLASSIFICATION AS A SOLID WASTE

The LDEQ, Office of Environmental Services, is accepting written comments on the draft decision document for a site-specific variance from the classification as a solid waste for Motiva Enterprises LLC - Norco Refinery, P O Box 10, Norco, Louisiana, 70079 for the Norco Refinery **The facility is located at 15536 River Road, Norco, St Charles Parish**

Motiva Enterprises LLC-Norco Refinery proposes to seek a site-specific variance from the classification of a solid waste for spent catalysts containing hazardous waste codes K171 and K172 in accordance with LAC 33 V 105 O 1 c and 105 O 2 c. The spent catalysts will be generated at the Norco Refinery in their hydro-processing reactors (RGHT Unit Reactors PV-8100 and PV-81019, SBA Unit Reactor PV-448) during hydro-processing catalytic activities. The process includes initial reclamation (deactivation) of the spent catalysts contained in CD Modules®, block-like structures manufactured by Catalytic Distillation Technologies (CDTECH), a company located in Pasadena, Texas.

Motiva Enterprises LLC-Norco Refinery, has established a licensing agreement to use CDTECH's CD Modules® in their hydro-processing reactors. CDTECH has in turn established a tolling agreement with Techemet, LLC, a metals reclamation facility also located in Pasadena, Texas. Techemet, LLC will physically separate the spent catalysts from the CD Modules® to perform subsequent reclamation to recover the metal value contained in the spent catalysts.

Written comments, written requests for a public hearing, or written requests for notification of the final decision regarding this permit action may be submitted to Ms. Soumaya Ghosn at LDEQ, Public Participation Group, P O Box 4313, Baton Rouge, LA 70821-4313. **Written comments and/or written requests must be received by 12 30 p m , Monday, October 27, 2008.** Written comments will be considered prior to a final permit decision.

If LDEQ finds a significant degree of public interest, a public hearing will be held. LDEQ will send notification of the final permit decision to the applicant and to each person who has submitted written comments or a written request for notification of the final decision.

The draft document, fact sheet and additional documentation are available for review at the LDEQ, Public Records Center, Room 127, 602 North 5th Street, Baton Rouge, LA. Viewing hours are from 8 00 a m to 4 30 p m , Monday through Friday (except holidays). **The available information can also be accessed electronically on the Electronic Document Management System (EDMS) on the DEQ public website at www.deq.louisiana.gov**

Additional copies may be reviewed at the Saint Charles Parish, Norco Branch, 197 Good Hope Street, Norco, LA 70079 and the East Regional Branch, 100 River Oaks Drive, Destrehan, LA 70047.

Inquiries or requests for additional information regarding this permit action should be directed to Keith R Williams, LDEQ, Waste Permits Division, P O Box 4313, Baton Rouge, LA 70821 4313, phone (225) 219-3011

Persons wishing to be included on the LDEQ permit public notice mailing list or for other public participation related questions should contact the Public Participation Group in writing at LDEQ, P O Box 4313, Baton Rouge, LA 70821-4313, by email at deqmaillistrequest@la.gov or contact the LDEQ Customer Service Center at (225) 219-LDEQ (219-5337)

Permit public notices including electronic access to the draft permit and associated information can be viewed on the LDEQ permits public webpage at www.deq.louisiana.gov/apps/pubNotice/default.asp and general information related to the public participation in permitting activities can be viewed at www.deq.louisiana.gov/portal/tabid/2198/Default.aspx

Alternatively, individuals may elect to receive the permit public notices via email by subscribing to the LDEQ permits public notice List Server at www.doe.louisiana.gov/oes/listservpage/ldeq_pn_listserv.htm

All correspondence should specify AI Number 1406, Permit Number LAD008186579, and Activity Number PER20080005

Scheduled Publication Date September 18, 2008

FACT SHEET

FACT SHEET
FOR THE DRAFT DECISION OF A SITE SPECIFIC VARIANCE
PREPARED FOR

MOTIVA ENTERPRISES, LLC – NORCO REFINERY
EPA ID# LAD 008 186 579
Agency Interest # 1406

P O Box 10
15536 RIVER ROAD
Norco, Louisiana
St Charles Parish

PER20080005

I INTRODUCTION

This fact sheet has been developed in accordance with the Louisiana Administrative Code (LAC) 33 V 703 D and briefly sets forth principal and significant facts legal methodological and policy requirements of the proposed draft site-specific variance for Motiva Enterprises LLC Norco Refinery EPA ID Number LAD 008 186 579 Agency Interest Number 1406 for the Norco Refinery located in Norco St Charles Parish Louisiana

Motiva Enterprises LLC Norco Refinery is seeking a site-specific variance in accordance with LAC 33 V 105 O 1 c and 105 O 2 c Variances from Classification as a Solid Waste and Standards and Criteria for Variances from Classification as a Solid Waste respectively The Louisiana Department of Environmental Quality (LDEQ) has been requested to grant a site-specific variance for hazardous waste codes K171 and K172 in spent catalysts generated in hydro-processing reactors at the Norco Refinery The spent catalysts will be contained in block-like structures called CD Modules® manufactured by Catalytic Distillation Technologies (CDTECH) located in Pasadena Texas

Motiva Enterprises LLC Norco Refinery has established a licensing agreement to use CDTECH s CD Modules® in their hydro processing reactors (RGHT Unit Reactors PV-8100 and PV-81019, SBA Unit Reactor PV-448) during hydro processing catalytic activities, which includes initial reclamation (deactivation) of the spent catalysts contained in the CD Modules® CDTECH has in turn, established a tolling agreement with Techemet LLC a metals reclamation facility also located in Pasadena Texas, to physically separate the spent catalysts from the CD Modules® to perform subsequent reclamation to recover the metal value contained in the spent catalysts

The Louisiana Department of Environmental Quality (LDEQ) Office of Environmental Services Waste Permits Division under authority granted by the Louisiana Environmental Quality Act in particular La R S 30:2014 by the Executive Reorganization Act in particular La R S 36:234 and by Section 105 of Title 33 Part V of the Louisiana Administrative Code (LAC 33 V 105), particularly LAC 33 V 105 O 1 c and 105 O 2 c, has prepared this proposed draft site specific variance. The Administrative Authority for this variance is the Secretary of the Louisiana Department of Environmental Quality (LDEQ) or his/her designee.

Motiva Enterprises LLC Norco Refinery submitted a variance request from the Classification of a Solid Waste for hazardous wastes codes K171/K172. Previously Environmental Issues Management, LLC on behalf of CDTECH submitted a variance request on September 4, 2007 from the definition of a solid waste for spent catalyst containing hazardous waste codes K171/K172 requesting concurrence with an identical variance request approved by the Texas Commission on Environmental Quality for CDTECH/Techemet LLC on July 3, 2007. In addition proprietary business information along with a request for confidentiality was submitted by CDTECH on October 31, 2007. The request for confidentiality was granted by the LDEQ on November 30, 2007. The submittals were reviewed and Notice of Deficiencies (NOD) were issued on January 9, 2008. Responses were received on January 28, 2008. In a meeting on March 18, 2008 Environmental Issues Management LLC was informed by the Waste Permits Division that the variance request would have to be submitted by the facility (Motiva Enterprises LLC Norco Refinery Norco LA) where the activity will take place. The facility submitted the variance request on April 7, 2008.

II THE VARIANCE PROCESS

The purpose of this fact sheet is to initiate and document the variance decision process. The LDEQ Office of Environmental Services-Waste Permits Division has prepared this draft letter of intent to grant a site-specific variance. This letter of intent sets forth all applicable conditions with which the facility must comply.

The variance process will afford the LDEQ interested citizens, and other agencies the opportunity to evaluate the information presented in the letter of intent for the site-specific variance from the classification of a solid waste and the regulatory requirements and all other applicable information.

The public is given a minimum of thirty (30) days to review and comment on the draft site-specific variance. The Administrative Authority prior to making a decision or taking any final action on the draft site specific variance will consider all significant comments. The decision of the Administrative Authority shall be to issue or deny the site-specific variance.

A DRAFT SITE SPECIFIC VARIANCE

The Waste Permits Division reviewed the site specific variance request and other pertinent technical information and prepared a draft site specific variance that contains the language pertaining to the management of the CD Modules® at the listed facility

This draft site-specific variance is a tentative determination and is not the final decision of the Administrative Authority

B PUBLIC COMMENT PERIOD

LAC 33 V 105 K 2 b requires that the public be given thirty (30) days to comment on the draft site specific variance decision

The specific dates for the opening and closing of the public comment period are contained in the public notice that was issued for this particular permitting action To ensure consideration of your comment any person interested in commenting on the draft site specific variance for the Motiva Enterprises LLC Norco Refinery must do so within the thirty (30) day comment period

Public notice of the draft site-specific variance shall be published in specified newspapers and/or announced on the designated radio station and mailed to those persons contained on the facility's mailing list

A public hearing for the draft site specific variance may be held only if requested in writing or at the Administrative Authority's discretion The date, location and time would be provided in separate public notice LDEQ will hold the hearing at least thirty (30) days after the date on which the public notice is given

C LOCATIONS OF AVAILABLE INFORMATION

The administrative record, including all supporting documents is on file at the LDEQ Public Records Center, Room 127 602 North 5th Street Baton Rouge Louisiana These documents may be inspected (except for proprietary information granted "confidential" by the Department) and copied (at \$0.25 per copy page) at any time between the hours of 8:00 to 4:30 p.m. Monday through Friday (except holidays)

In addition a copy of the draft site specific variance fact sheet and supporting documents are available for review at the St. Charles Parish Library East Regional Branch located at 100 River Oaks Drive Destrehan LA 70047

D WRITTEN COMMENT SUBMISSION

Interested persons may submit written comments on the draft site specific variance to the Administrative Authority at the address listed below on or before the closing date of the comment period. All comments should include

- (1) the name and address of the commenter
- (2) a concise statement of the exact basis for any comment and supporting relevant facts upon which the comment is based
- (3) identification of the facility commented on (the EPA Identification Number and the AI number) and
- (4) supporting relevant facts upon which the comments are based

All comments, further requests for information (including copies of this decision and fact sheet) and any requests by public interest groups or individuals who would like to be included in the mailing list should be made in writing to

Ms. Soumaya Ghosn
Louisiana Department of Environmental Quality
Office of Environmental Services
Post Office Box 4313
Baton Rouge, Louisiana 70821-4313
(225) 219-3276 or fax (225) 219-3309

Any technical questions regarding this draft site specific variance should be addressed to

Mr. Keith R. Williams
Louisiana Department of Environmental Quality
Office of Environmental Services
Waste Permits Division
P O Box 4313
Baton Rouge, Louisiana 70821-4313
(225) 219-3011 or fax (225) 219-3158

II DESCRIPTION OF OVERALL SITE

Motiva Enterprises LLC Norco Refinery is a petroleum refining plant located on the north side and the east bank of the Mississippi River in St. Charles Parish, Louisiana. The plant is bounded to the south by River Road and the Mississippi River, to the west by the Bonnet Carre Spillway, to the north by the tracks of the Kansas City Railroad, and to the east by the town of Norco. The refinery produces crude oil, gas oil, condensate, and natural gas.

III HAZARDOUS WASTE FACILITIES

There are no permitted hazardous waste facilities at this site. The refinery operates as a Large Quantity Generator (LQG) of hazardous waste and performs on-site oil recovery for oil-bearing secondary material and product recovery, exempt from RCRA permitting.

PUBLIC NOTICE

PUBLIC NOTICE
LOUISIANA DEPARTMENT OF ENVIRONMENTAL QUALITY (LDEQ)
MOTIVA ENTERPRISES LLC - NORCO REFINERY
DRAFT DECISION DOCUMENT TO GRANT A SITE-SPECIFIC VARIANCE
FROM CLASSIFICATION AS A SOLID WASTE

The LDEQ, Office of Environmental Services, is accepting written comments on the draft decision document for a site-specific variance from the classification as a solid waste for Motiva Enterprises LLC Norco Refinery, P O Box 10, Norco, Louisiana, 70079 for the Norco Refinery **The facility is located at 15536 River Road, Norco, St Charles Parish**

Motiva Enterprises LLC Norco Refinery proposes to seek a site-specific variance from the classification of a solid waste for spent catalysts containing hazardous waste codes K171 and K172 in accordance with LAC 33 V 105 O 1 c and 105 O 2 c. The spent catalysts will be generated at the Norco Refinery in their hydro-processing reactors (RGHT Unit Reactors PV-8100 and PV-81019, SBA Unit Reactor PV-448) during hydro-processing catalytic activities. The process includes initial reclamation (deactivation) of the spent catalysts contained in CD Modules®, block like structures manufactured by Catalytic Distillation Technologies (CDTECH), a company located in Pasadena, Texas.

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Electronic Document Management System (EDMS) on the DEQ public website at www.deq.louisiana.gov

Additional copies may be reviewed at the Saint Charles Parish, Norco Branch, 197 Good Hope Street, Norco, LA 70079 and the East Regional Branch, 100 River Oaks Drive, Destrehan, LA 70047

Inquiries or requests for additional information regarding this permit action should be directed to Keith R. Williams, LDEQ, Waste Permits Division, P O Box 4313, Baton Rouge, LA 70821-4313, phone (225) 219-3011

Persons wishing to be included on the LDEQ permit public notice mailing list or for other public participation related questions should contact the Public Participation Group in writing at LDEQ, P O Box 4313, Baton Rouge, LA 70821 4313, by email at deqmaillistrequest@la.gov or contact the LDEQ Customer Service Center at (225) 219 LDEQ (219 5337)

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Alternatively, individuals may elect to receive the permit public notices via email by subscribing to the LDEQ permits public notice List Server at www.doa.louisiana.gov/oes/listservpage/ldeq_pn_listserv.htm

All correspondence should specify AI Number 1406, Permit Number LAD008186579, and Activity Number PER20080005

Scheduled Publication Date September 18 2008

BOBBY JINDAL
GOVERNOR



HAROLD LEGGETT, PH D
SECRETARY

State of Louisiana
DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL SERVICES

September 15 2008

Via Fax (225) 388 0164
Phone (225) 388 0128

Ms Susan Bush
Legal Advertising
The Advocate
Post Office Box 588
Baton Rouge LA 70821 0588

Re REQUEST FOR PUBLIC COMMENT ON REQUEST FOR VARIANCE FROM
CLASSIFICATION AS A SOLID WASTE
MOTIVA ENTERPRISES LLC NORCO REFINERY
NORCO ST CHARLES PARISH LOUISIANA
AGENCY INTEREST (AI) NO 1406 PERMIT NUMBER LAD 008 186 579 PER20080005

Dear Ms Bush

Please publish the attached legal notice regarding the above referenced facility as a regular legal ad in The Advocate *once only* on **Thursday, September 18, 2008**. You will also receive a copy of the legal notice itself via email at legal ads@theadvocate.com

State regulations require that we provide notification to the public and allow sufficient time for public comments. For this department to be assured that adequate notification is provided, we are requesting that you sign and date the enclosed 'Verification by Newspaper', and fax it to the attention of Ms Laura Ambeau (225) 219-3309 immediately upon publication. If the notice cannot be published on the date requested, please contact Ms Ambeau (225) 325 8157 or email laura ambeau@la.gov


Charges for this service should be billed to [REDACTED]
[REDACTED] Please include the following information on the invoice:

Laura Ambeau (225) 219 3277
Office of Environmental Services/Environmental Assistance Division
Post Office Box 4313
Baton Rouge LA 70821 4313
[REDACTED]

The official proof of publication in the form of a ten sheet and invoice should be mailed to my attention LDEQ Environmental Assistance Division P O Box 4313 Baton Rouge LA 70821-4313

Thank you for assisting in our effort to serve the public

Sincerely


Laura Ambeau
Environmental Scientist Public Participation Group

LA

Attachments/2

VERIFICATION BY NEWSPAPER

The undersigned verifies that the following public notice was published in the _____ (date of publication) edition of **The Advocate**

Re REQUEST FOR PUBLIC COMMENT ON REQUEST FOR VARIANCE FROM
CLASSIFICATION AS A SOLID WASTE
MOTIVA ENTERPRISES LLC NORCO REFINERY
NORCO ST CHARLES PARISH LOUISIANA
AGENCY INTEREST (AI) NO 1406 PERMIT NUMBER LAD 008 186 579 PER20080005

THE ADVOCATE

By _____ Date _____

Immediately upon publication please fax this form, along with a copy of the public notice as it appeared in the newspaper, to Ms Laura Ambeau (225) 325-8157

PLEASE NOTE

THIS VERIFICATION DOES NOT RELIEVE THE NEWSPAPER OF THE RESPONSIBILITY OF PROVIDING OFFICIAL PROOF OF PUBLICATION, IN THE FORM OF AN AFFIDAVIT, TO THE LDEQ AS REQUESTED IN OUR COVER LETTER

BOBBY JINDAL
GOVERNOR



HAROLD LEGGETT, Ph D
SECRETARY

State of Louisiana
DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL SERVICES

September 15 2008

Via Fax (985) 758 7000

Ms Torin Thomas
Saint Charles Herald Guide
Legal Advertising
Post Office Box 1199
Boutte LA 70039

Re REQUEST FOR PUBLIC COMMENT ON REQUEST FOR VARIANCE FROM
CLASSIFICATION AS A SOLID WASTE
MOTIVA ENTERPRISES LLC NORCO REFINERY
NORCO ST CHARLES PARISH LOUISIANA
AGENCY INTEREST (AI) NO 1406 PERMIT NUMBER LAD 008 186 579 PER20080005

Dear Ms Thomas

Please publish the attached legal notice regarding the above referenced facility as a regular legal ad in the Saint Charles Herald Guide once only on Thursday, September 18, 2008 You will also receive a copy of the legal notice itself via email at torint@heraldguide.com

State regulations require that we provide notification to the public and allow sufficient time for public comments For this department to be assured that adequate notification is provided, we are requesting that you sign and date the enclosed 'Verification by Newspaper', and fax it to the attention of Ms Laura Ambeau (225) 325 8157 immediately upon publication If the notice cannot be published on the date requested, please contact Ms Ambeau (225) 219 3277 or email laura.ambeau@la.gov

Charges for this service should be billed to [REDACTED]
[REDACTED] Please include the following information on the nvoice

Laura Ambeau (225) 219 3277
Office of Environmental Services/Environmental Assistance Division
Post Office Box 4313
Baton Rouge LA 70821 4313
[REDACTED]

The original proof of publication and invoice should be mailed to the attention of Ms Laura Ambeau LDEQ OES
Environmental Assistance Division Post Office Box 4313 Baton Rouge LA 70821-4313

Thank you for assisting in our effort to serve the public

Sincerely

A handwritten signature in cursive script, appearing to read "Laura Ambeau".

Laura Ambeau
Environmental Assistance Public Participation Group

LA
Attachments/2

VERIFICATION BY NEWSPAPER

The undersigned verifies that the following public notice was published in the _____ (date of publication) edition of the **Saint Charles Herald-Guide**

Re REQUEST FOR PUBLIC COMMENT ON REQUEST FOR VARIANCE FROM
CLASSIFICATION AS A SOLID WASTE
MOTIVA ENTERPRISES LLC NORCO REFINERY
NORCO ST CHARLES PARISH LOUISIANA
AGENCY INTEREST (AI) NO 1406 PERMIT NUMBER LAD 008 186 579 PER20080005

SAINT CHARLES HERALD-GUIDE

By _____ Date _____

Immediately upon publication please fax this form, along with a copy of the public notice as it appeared in the newspaper, to Ms Laura Ambeau (225) 325-8157

PLEASE NOTE

THIS VERIFICATION DOES NOT RELIEVE THE NEWSPAPER OF THE RESPONSIBILITY OF PROVIDING OFFICIAL PROOF OF PUBLICATION IN THE FORM OF AN AFFIDAVIT, TO THE LDEQ AS REQUESTED IN OUR COVER LETTER



State of Louisiana
DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL SERVICES

September 15, 2008

Telephone (985) 764 6581

Ms Phyllis Smith Supervisor
St Charles Parish Library
Norco Branch
197 Good Hope Street
Norco LA 70079

Re REQUEST FOR PUBLIC COMMENT ON REQUEST FOR VARIANCE FROM
CLASSIFICATION AS A SOLID WASTE
MOTIVA ENTERPRISES LLC, NORCO REFINERY
NORCO ST CHARLES PARISH LOUISIANA
AGENCY INTEREST (AI) NO 1406 PERMIT NUMBER LAD 008 186 579 PER20080005

Dear Ms Smith

We request that the enclosed draft decision document site specific variance public notice and request for public comment for the referenced facility be made available for public review upon receipt. It is imperative that these documents are available for review at all times therefore they cannot be checked out by anyone at any time.

The documents should be retained during the permitting process. At the close of the permitting period the Louisiana Department of Environmental Quality Office of Environmental Services (LDEQ OES) Permits Division will provide written notice to you requesting that the information be removed.

Please complete the attached Verification by Library and mail to Ms Laura Ambeau LDEQ OES Environmental Assistance Division PO Box 4313 Baton Rouge LA 70821 4313 or Fax to (225) 325 8157.

We appreciate your assistance in our efforts to serve the public. If you have any questions please call Ms Ambeau at (225) 219 3277.

Sincerely,

A handwritten signature in cursive script, reading "Laura M. Ambeau".

Laura M. Ambeau
Environmental Scientist Public Participation Group

LA

Attachments/2

VERIFICATION BY LIBRARY

The undersigned verifies that the St Charles Parish Library, Norco Branch, has received a copy of the draft decision document site specific variance, public notice and request for public comment for the following facility

Re REQUEST FOR PUBLIC COMMENT ON REQUEST FOR VARIANCE FROM
CLASSIFICATION AS A SOLID WASTE
MOTIVA ENTERPRISES LLC NORCO REFINERY
NORCO ST CHARLES PARISH LOUISIANA
AGENCY INTEREST (AI) N0 1406 PERMIT NUMBER LAD 008 186 579 PER20080005

ST CHARLES PARISH LIBRARY, NORCO BRANCH

By _____ Date _____

Please complete and return this form promptly to the address listed below

Ms Laura Ambeau
Louisiana Department of Environmental Quality
Office of Environmental Services
Environmental Assistance Division
PO Box 4313
Baton Rouge, LA 70821-4313
PHONE (225) 219-3277

FAX (225) 325-8157



State of Louisiana
DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL SERVICES

September 15 2008

Telephone (985) 764 2366
Fax (985) 764 0447

Ms Lauren Campo Branch Manager
St Charles Parish Library East Regional Branch
100 River Oaks Drive
Destrehan LA 70047

Re REQUEST FOR PUBLIC COMMENT ON REQUEST FOR VARIANCE FROM
CLASSIFICATION AS A SOLID WASTE
MOTIVA ENTERPRISES LLC, NORCO REFINERY
NORCO, ST CHARLES PARISH LOUISIANA
AGENCY INTEREST (AI) N0 1406 PERMIT NUMBER LAD 008 186 579, PER20080005

Dear Ms Campo

We request that the enclosed draft decision document site specific variance public notice and request for public comment for the referenced facility be made available for public review upon receipt. It is imperative that these documents are available for review at all times therefore they cannot be checked out by anyone at any time.

The documents should be retained during the permitting process. At the close of the permitting period the Louisiana Department of Environmental Quality Office of Environmental Services (LDEQ OES) Permits Division will provide written notice to you requesting that the information be removed.

Please complete the attached Verification by Library and mail to Ms Laura Ambeau LDEQ OES Environmental Assistance Division PO Box 4313 Baton Rouge LA 70821 4313 or Fax (225) 325 8157.

We appreciate your assistance in our efforts to serve the public. If you have any questions please call Ms Ambeau at (225) 219 3277.

Sincerely,

A handwritten signature in black ink, appearing to read "Laura Ambeau".

Laura Ambeau
Environmental Scientist Public Participation Group

LA

Attachments/2

VERIFICATION BY LIBRARY

The undersigned verifies that the St Charles Parish Library East Regional Branch has received a copy of the draft decision document site specific variance public notice and request for public comment for the following facility

Re REQUEST FOR PUBLIC COMMENT ON REQUEST FOR VARIANCE FROM
CLASSIFICATION AS A SOLID WASTE
MOTIVA ENTERPRISES LLC NORCO REFINERY
NORCO ST CHARLES PARISH LOUISIANA
AGENCY INTEREST (AI) N0 1406 PERMIT NUMBER LAD 008 186 579 PER20080005

ST CHARLES PARISH LIBRARY, DESTRAHAN BRANCH

By _____ Date _____

Please complete and return this form promptly to the address listed below

Ms Laura Ambeau
Louisiana Department of Environmental Quality
Office of Environmental Services
Environmental Assistance Division
PO Box 4313
Baton Rouge LA 70821-4313
PHONE (225) 219 3277

FAX (225) 325 8157

BOBBY JINDAL
GOVERNOR



HAROLD LEGGETT, PH D
SECRETARY

State of Louisiana
DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL SERVICES

September 15 2008

Phone (985) 783 5000
Fax (985) 783 2067

V J St Pierre Jr
Parish President Saint Charles Parish
15045 Highway 18
Hahnville LA 70057

Re REQUEST FOR PUBLIC COMMENT ON REQUEST FOR VARIANCE FROM
CLASSIFICATION AS A SOLID WASTE
MOTIVA ENTERPRISES LLC NORCO REFINERY
NORCO ST CHARLES PARISH, LOUISIANA
AGENCY INTEREST (AI) N0 1406 PERMIT NUMBER LAD 008 186 579 PER20080005

Dear Mr St Pierre

The Louisiana Department of Environmental Quality (LDEQ) is enclosing for your reference a copy of the draft decision document for a site specific variance from classification as a solid waste that is scheduled to be published in The Advocate and The Saint Charles Herald Guide on September 18, 2008

Should you have any questions regarding the facility, additional permit information may be obtained from Mr Keith R Williams, LDEQ, Waste Permits Division, P O Box 4313, Baton Rouge, LA 70821-4313, telephone (225) 219-3011

Sincerely,

A handwritten signature in cursive script, appearing to read "Laura M Ambeau".

Laura M Ambeau
Environmental Scientist Public Participation Group

LA

Enclosures/2

VERIFICATION BY PARISH GOVERNMENT

The undersigned verifies that the Parish President, Saint Charles Parish has received a copy of the draft decision document for a site-specific variance from classification as a solid waste regarding

Re REQUEST FOR PUBLIC COMMENT ON REQUEST FOR VARIANCE FROM
CLASSIFICATION AS A SOLID WASTE
MOTIVA ENTERPRISES LLC NORCO REFINERY
NORCO, ST CHARLES PARISH, LOUISIANA
AGENCY INTEREST (AI) N0 1406, PERMIT NUMBER LAD 008 186 579 PER20080005

Plaquemines Parish Government

By _____ Date _____

Please complete and return this form promptly to the address listed below

Ms Laura Ambeau
Louisiana Department of Environmental Quality
Office of Environmental Services
Environmental Assistance Division
PO Box 4313
Baton Rouge, LA 70821-4313
PHONE (225) 219-3277

FAX (225) 325-8157



State of Louisiana

DEPARTMENT OF ENVIRONMENTAL QUALITY

September 15 2008 ENVIRONMENTAL SERVICES

Phone (504) 736 7701
Fax (504) 736 7702
E-Mail SEROAdmin@LA.GOV

Mr Mike Algero Regional Manager
LDEQ Southeast Regional Office
201 Evans Road
Building 4, Suite 420
New Orleans, LA 70123 5230

Re REQUEST FOR PUBLIC COMMENT ON REQUEST FOR VARIANCE FROM
CLASSIFICATION AS A SOLID WASTE
MOTIVA ENTERPRISES LLC NORCO REFINERY
NORCO ST CHARLES PARISH LOUISIANA
AGENCY INTEREST (AI) NO 1406 PERMIT NUMBER LAD 008 186 579 PER20080005

Dear Mr Algero

The Louisiana Department of Environmental Quality (LDEQ) is enclosing for your reference and public review a copy of the draft decision document for a site specific variance from classification as a solid waste along with the legal notice to be published in The Advocate and The Saint Charles Herald Guide on September 18 2008. It is imperative that these documents are available for review at all times therefore they cannot be taken out by anyone at any time.

Should you have any questions regarding the facility additional permit information may be obtained from Mr Keith R. Williams LDEQ Permits Division P O Box 4313 Baton Rouge LA 70821-4313 phone (225) 219 3011

Please complete the attached Verification by Regional Office and mail to Ms Laura Ambeau LDEQ OES Environmental Assistance Division Post Office Box 4313 Baton Rouge Louisiana 70821 4313 or Fax to (225) 325 8157

We appreciate your assistance in our efforts to serve the public. If you have any questions please call Ms Ambeau at (225) 219 3277

Sincerely,

A handwritten signature in black ink, appearing to read "Laura Ambeau".

Laura Ambeau
Environmental Scientist
Public Participation Group

LA / Attachment

VERIFICATION BY SOUTHEAST REGIONAL OFFICE

The undersigned verifies that the LDEQ, Southeast Regional Office has received a copy of the following draft decision document for a site-specific variance from classification as a solid waste and public notice

Re REQUEST FOR PUBLIC COMMENT ON REQUEST FOR VARIANCE FROM
 CLASSIFICATION AS A SOLID WASTE
 MOTIVA ENTERPRISES LLC NORCO REFINERY
 NORCO ST CHARLES PARISH LOUISIANA
 AGENCY INTEREST (AI) N0 1406 PERMIT NUMBER LAD 008 186 579 PER20080005

LDEQ, SOUTHEAST REGIONAL OFFICE

By _____ Date _____

Please complete and return this form promptly to the address listed below

Ms Laura Ambeau
Louisiana Department of Environmental Quality
Office of Environmental Services
Environmental Assistance Division
Post Office Box 4313
Baton Rouge, Louisiana 70821-4313
PHONE (225) 219 3277

FAX (225) 325-8157

**VERIFICATION BY FIRST FLOOR
SCANNING CENTER**

THIS INFORMATION MUST BE AVAILABLE FOR PUBLIC VIEWING
AT 8 00AM on
Thursday, September 18, 2008

The undersigned verifies that a copy of the DRAFT DECISION TO GRANT A SITE SPECIFIC
VARIANCE and public notice for the referenced facility has been received by the First
Floor Scanning Center

Re REQUEST FOR PUBLIC COMMENT ON REQUEST FOR VARIANCE FROM
CLASSIFICATION AS A SOLID WASTE
MOTIVA ENTERPRISES LLC NORCO REFINERY
NORCO ST CHARLES PARISH LOUISIANA
AGENCY INTEREST (AI) NO 1406 PERMIT NUMBER LAD 008 186 579 PER20080005

By _____ Date _____

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The Public Participation Group contact for this packet of information is
Laura Ambeau, Rm 321-31, 2-3277

DRAFT DECISION



State of Louisiana
DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL SERVICES

Allan D. Gallant HSSE Manager
Motiva Enterprises LLC – Norco Refinery
P.O. Box 10
15536 River Road
Norco LA 70037

RE Motiva Enterprises LLC – Norco Refinery
AI#1406/LAD 008 186 579/PER20080005
Draft Decision Document for Variance from the Classification as a Solid Waste for
Waste Codes K171/K172 Pursuant to LAC 33 V 105 01 c and 105 2 c

Dear Mr. Gallant:

The Waste Permits Division has received your submittal dated April 3, 2008 regarding the request to grant a variance from the classification as a solid waste for spent catalyst containing waste codes K171/K172 resulting from hydro processing activities conducted at your facility in conjunction with Catalytic Distillation Technologies (CDTECH) located in Pasadena, Texas. The variance will cover the spent catalysts contained in CDTECH's CD Modules® following initial reclamation of the spent catalysts within the hydro processing reactors (RGHT Unit Reactors PV 8100 and PV 81019, SBA Unit Reactor PV 448) operated by your facility. After hydro processing activities have occurred, the CD Modules® will be transported to Techemet LLC located in Pasadena, Texas for further reclamation to recover the metal value in the spent catalysts contained in the CD Modules®.

After careful review and consideration of your submittal and additional information (proprietary business information submitted on October 31, 2007 along with a request for confidentiality granted by the LDEQ on November 30, 2007), the Waste Permits Division hereby grants Motiva Enterprises LLC - Norco Refinery's request for a variance from the classification as a solid waste those spent catalyst containing waste codes K171/K172 contained within the CD Modules® utilized in the hydro-processing reactors (RGHT Unit Reactors PV 8100 and PV 81019, SBA Unit Reactor PV-448). This variance remains valid as long as CDTECH retains ownership of the spent catalysts contained within the CD Modules® and the following conditions are met:

- *The management and transport of the spent catalysts shall not 1) create a discharge or imminent threat of discharge into or adjacent to the waters of the state 2) create and maintain a nuisance or 3) violate any applicable provisions of the Louisiana Administrative Code and the U.S. and Louisiana Department of Transportation laws and regulations*

- *The contractual agreements and obligations between Motiva Enterprises LLC Norco Refinery and CDTECH, which has licensing agreements with Techemet LLC are accurate complete as presented to the LDEQ in the request and which this variance is based and there is a strict compliance with the terms of those agreements and obligations*
- *The catalysts are deactivated (initial reclamation) prior to leaving the unit at Motiva Enterprises LLC Norco Refinery (at a minimum this shall mean that the catalysts do not exhibit the characteristics of ignitability (D001) or reactivity (D003)) shall not be pyrophoric shall meet all of the standards and criteria for being deactivated found in the Supervisory Operating Manual and in compliance with the Clean Air Act and LDEQ air regulatory requirements The spent material shall meet all US and Louisiana Department of Transportation regulations and conditions for shipment)*
- *All records of how the catalysts are reclaimed and recycled at Techemet s facility shall be maintained in an easy to retrieve and easy to copy format and*
- *If at anytime the spent catalysts are sent for disposal prior to final reclamation the material shall retain the hazardous waste listings of K171/K172 and be properly disposed of at a permitted disposal facility in accordance with the Hazardous Waste Regulations*

This variance is based on the assumption that the information provided to LDEQ by Motiva Enterprises LLC - Norco Refinery and CDTECH is complete and accurate Motiva Enterprises, LLC - Norco Refinery must inform the LDEQ by written notification in a timely manner of any deviation from or changes to the information in the variance request which would affect Motiva Enterprises LLC - Norco Refinery s ability to comply with applicable regulatory requirements or variance conditions This variance may be suspended, modified, revoked, reissued or terminated for cause

The granting of this variance does not constitute a defense against any past or future non compliance with state or federal regulations Additionally the granting of this variance does not constitute Department approval for any activity or process that may require a permit or a modification to an existing permit

Mr. Gallant
AI#1406/PER20080005
Page 3

Please reference your Agency Interest Number 1406 EPA ID Number LAD 008 186 579 and Permit Activity Number PER20080005 on all future correspondence pertaining to this matter. If you have any questions, please contact Keith R. Williams of the Waste Permits Division at (225) 219 3011.

Sincerely,

Cheryl Sommer Nolan
Assistant Secretary

c. Chuck Handrich – Waste Permits Division
Tyler Ginn – Enforcement Division

ADDITIONAL DOCUMENTATION



April 3 2008

CERTIFIED MAIL – RETURN RECEIPT REQUESTED

Ms Cheryl Nolan Assistant Secretary
Office of Environmental Services
Louisiana Department of Environmental Quality
P O Box 4313
Baton Rouge LA 70821 4313

**SUBJECT REQUEST FOR VARIANCE FROM CLASSIFICATION AS A SOLID WASTE
PURSUANT TO 33 LAC V 105 O 1(C) AND 105 O 2(C)
AGENCY INTEREST #1406, EPA ID #LAD008186579**

Dear Ms Nolan

Pursuant to Louisiana Administrative Code under 33 LAC V 105 O 1(c) and 105 O 2(c) Motiva Enterprises LLC (Motiva) and Catalytic Distillation Technologies (CDTECH) are requesting the Louisiana Department of Environmental Quality (LDEQ) to grant a variance from classification as a solid waste for CDTECH's catalyst modules (CD Modules®) following the initial reclamation of the CD Modules® within hydroprocessing reactors operated by Motiva at its Norco refinery located in Norco Louisiana

Based on the information provided in the enclosed document and its attachments Motiva and CDTECH consider the partially reclaimed CD Modules® to be clearly commodity like under each of the criteria set forth under 33 LAC V 105 O 2(c) Motiva and CDTECH consider the granting of the variance to be warranted and justified The requested variance will promote the recovery of valuable non renewable resources and advance CDTECH's sustainable processing applications that provide environmental benefit to Motiva and the state of Louisiana

On October 31 2007 CDTECH submitted a single character request pursuant to Title 33 Part 1 Subpart 1 Chapter 5 Section 503 of the Louisiana Administrative Code which provided confidential documents supporting Motiva's and CDTECH's request

Motiva and CDTECH appreciate the LDEQ's prompt consideration of this request If further discussion or additional clarification is required please contact Mr Robert Phelan of Environmental Issues Management L L C at (985) 966 1000 or Mr Fred Goodson of my staff at (504) 465 7609

Sincerely

File Copy Submitted on April 03, 2008

Allan D Gallant
HSSE Manager
Motiva Norco Refinery

Enclosure Motiva and CDTECH Variance Request

COPY



Environmental
Issues Management L L C

April 07 2008

original to IOSW

Sm copy to HW Foster
SWOT Townsel
AVG

Cheryl Nolan Assistant Secretary
Louisiana Department of Environmental Quality
Office of Environmental Services
P O Box 4313
Baton Rouge, LA 70821-4313

AI 1406

5
PER 20080000

**Regarding Request for Variance from Classification as a Solid Waste
Pursuant to 33 LAC V 105 O 1(c) and 105 O 2(c)**

Dear Ms Nolan

Pursuant to Louisiana Administrative Code under 33 LAC V 105 O 1(c) and 105 O 2(c) Environmental Issues Management LLC (EIM) on behalf of its client Catalytic Distillation Technologies (CDTECH) and Motiva Enterprises LLC (Motiva) is requesting the LDEQ to grant a variance from classification as a solid waste for CDTECH's catalyst modules (CD Modules®) following the initial reclamation of the CD Modules® within hydroprocessing reactors operated by Motiva at its Norco refinery located in Norco Louisiana

Based on the information provided in the enclosed document and its attachments CDTECH and Motiva consider the partially reclaimed CD Modules® to be clearly commodity-like under each of the criteria set forth under 33 LAC V 105 O 2(c) On April 03 2008, under separate cover Motiva submitted a correspondence to the LDEQ stating its concurrence with the information provided in the enclosed document and its attachments A copy of Motiva's April 3rd correspondence has been enclosed

On October 31 2007 CDTECH submitted a single character request pursuant to Title 33 Part 1 Subpart 1 Chapter 5 Section 503 of the Louisiana Administrative Code which provided confidential documents supporting Motiva's and CDTECH's request

Motiva and CDTECH appreciate the LDEQ's prompt consideration of this request The requested variance will promote the recovery of valuable non-renewable resources and advance CDTECH's sustainable processing applications that provide environmental benefit to Motiva and the state of Louisiana If further discussion or additional clarification is required please contact me at (985) 966-1000

Sincerely

ENVIRONMENTAL ISSUES MANAGEMENT LLC

Robert A Phelan Manager

Enclosures CDTECH and Motiva Variance Request
Motiva's April 03 2008 Correspondence

2008 APR -7 AM 10 09
U.D. - G.C.

**Request for Variance from Classification as a Solid Waste
Pursuant to Title 33 of the Louisiana Administrative Code
Under LAC §§ 105 O 1(c) and 105 O 2(c)**

Pursuant to Title 33 of the Louisiana Administrative Code under LAC §§ 105 O 1(c) and 105 O 2(c) Motiva Enterprises LLC (Motiva) and Catalytic Distillation Technologies (CDTECH) request the Louisiana Department of Environmental Quality (LDEQ) to grant a variance from classification as a solid waste for CDTECH's catalyst modules (CD Modules®) following the initial reclamation of the CD Modules® within hydroprocessing reactors operated by Motiva at its Norco refinery located in Norco Louisiana

Motiva Enterprises LLC LDEQ AI # 1406
Norco Refinery
Post Office Box 10
Norco Louisiana 70079

Motiva has an established licensing agreement with CDTECH which enables Motiva to utilize CDTECH's CD Modules® within hydroprocessing reactors operated by Motiva at its Norco refinery. Based on the information provided in this document and its attachments, Motiva and CDTECH consider the partially reclaimed CD Modules® to be clearly commodity-like under each of the criteria set forth under 33 LAC V 105 O 2(c).

Motiva and CDTECH consider the granting of the variance to be warranted and justified. The requested variance will enable CDTECH to recover valuable non-renewable resources from the partially reclaimed CD Modules® and advance CDTECH's sustainable processing applications that provide environmental benefit to Motiva and the state of Louisiana.

CDTECH, a partnership between ABB Lummus Global and Chemical Research and Licensing, develops and commercializes catalytic distillation based processes for the chemical, petrochemical and refining industries. CDTECH, which is based in Pasadena, Texas, provides unique alternative catalytic processing options to the petroleum refining industry under licensing agreements.

Catalytic Distillation Technologies EPA ID # TXD987988847
10100 Bay Area Boulevard
Pasadena, TX 77505

CDTECH's alternative catalytic processing applications enhance yields, extend catalyst life cycle and provide a cleaner burning gasoline with maximum octane retention. CDTECH's alternative catalytic processing applications are applied at Motiva's Norco refinery under a licensing agreement which assures CDTECH the option to retain ownership of the CD Modules®, which are the subject material of Motiva's and CDTECH's variance request.

CDTECH's licensing agreement with Motiva is considered proprietary. On October 31, 2007, CDTECH submitted a single character request pursuant to Title 33, Part 1, Subpart 1, Chapter 5, Section 503 of the Louisiana Administrative Code, which provided an example of CDTECH's standard licensing agreement as a confidential document supporting Motiva's and CDTECH's request.

Background Information

A review of fuel sulfur regulatory activities during the last five years documents that sulfur level requirements for conventional fuels will continue to be driven lower and lower. To achieve newly established sulfur requirements, the petroleum refining industry is required to significantly increase the performance of its hydroprocessing units.

Increasing the performance of these units results in severe operating conditions (i.e., increased temperatures and pressures) that in turn results in significantly shortened life cycles for conventional hydroprocessing catalysts (i.e., typical three-fold life cycle reductions). It is anticipated that these more severe operating conditions will significantly increase the industry's annual usage of hydroprocessing catalysts from 50 million pounds to as much as 130 million pounds.

This projected increase in annual usage and reduced unit efficiencies have provided the incentive for the development and use of CDTECH's alternative catalytic processing applications, which provide increased hydroprocessing and hydrodesulfurization efficiency. CDTECH's processing applications provide the petroleum refining industry with improved performance and extended catalyst life cycle (approximately seven years compared to two years for conventional fixed-bed catalyst applications) through significantly increased catalytic efficiency. The extended catalyst life cycles achieved by CDTECH's process applications provides the petroleum refining industry with significant reductions in hazardous waste generation, potentially reducing their spent catalyst generation rates as much as three-fold.

CDTECH's CD Modules®

The principle component of CDTECH's alternative catalytic processing applications is the CD Module®. CD Modules® are comprised of layers of catalyst particles that are encased within numerous honeycombed stainless steel mesh plates that are stacked in multiple layers to form CD Modules®. The physical form of an individual CD Module® is approximately four feet in length, one foot in height and one foot in width.

The block-like structure of the CD Module® allows petroleum refiners the ability to stack numerous individual modules together in progressive layers to fill the interior of the hydroprocessing reactor. The CD Modules® can be specifically sized to fit snugly into the hydroprocessing reactor to provide the maximum active catalytic surface area.

possible within the reactor. A photograph of several CD Modules[®] stacked on a pallet is included as an attachment (**Attachment A**) to this document.

Conventional Spent Catalyst Reclamation Conventional spent hydroprocessing catalysts do not undergo a deactivation step prior to their removal from fixed bed hydroprocessing reactors because they are removed from the reactors without requiring personnel entry. The typical removal method is to dump the spent catalysts directly into containers which are then sealed after a block of dry ice (i.e. carbon dioxide) is placed with the container to ensure that the spent catalysts remain in an oxygen reduced atmosphere.

Under these conditions, conventional spent hydroprocessing catalysts are still in a reduced chemical state and will immediately start to self heat (i.e. exhibit the hazardous characteristic of reactivity D003) upon contact with ambient air. The self heating properties of conventional spent catalysts was the primary concern and justification for the U.S. EPA's listing of spent hydrotreating (K171) and hydrorefining (K172) catalysts as hazardous wastes under 40 CFR 261.32 which was promulgated as a final rule on August 06, 1998 (63 FR 42110).

The initial reclamation step for conventional spent hydroprocessing catalysts is thermal treatment to oxidize and deactivate the self-heating properties and remove hydrocarbon compounds which interfere with metals recovery processes. This initial reclamation step for conventional spent hydroprocessing catalysts is essentially identical to the initial reclamation step for the CD Modules[®] with the exception that the initial reclamation step for the CD Modules[®] within CDTECH's alternative catalytic processing applications is performed within the hydroprocessing reactor.

Justification for Variance Request

Pursuant to the provisions under 33 LAC §105 O 1(c), Motiva and CDTECH request the LDEQ to grant a variance from classification as a solid waste for CD Modules[®] following their initial reclamation within hydroprocessing reactors operated by Motiva at its Norco refinery. Based on 33 LAC §105 O 2(c) *Standards and Criteria for Variances from Classification as a Solid Waste*, the LDEQ can grant a variance from classification as a solid waste for partially reclaimed materials that require further reclamation if after initial reclamation the material is commodity like but must be reclaimed further before recovery is completed.

Motiva and CDTECH consider their request to be justified based on the CD Modules[®] that are partially reclaimed prior to their removal from Motiva's hydroprocessing reactors are far more commodity-like than waste like based on the monetary value of the recoverable metals contained within the partially reclaimed CD Modules[®] which must undergo further reclamation before the recovery of the metals value is complete.

Initial Reclamation Prior to their removal from Motiva's hydroprocessing reactors, the spent catalysts contained within the CD Modules® are initially reclaimed through deactivation and hydrocarbon removal. The initial reclamation involves controlled oxidation (i.e., oxidizing the CD Modules® in the reactor) until the spent catalysts contained within the CD Modules® no longer exhibit any self-heating (i.e., pyrophoric or reactive) properties, and hydrocarbons are removed to the point where the spent catalysts contained within the CD Modules® contain minimal hydrocarbons.

Deactivation is a significant step in the initial reclamation of the CD Modules®, rendering the spent catalysts contained within the CD Modules® inert prior to subsequent reclamation. In addition to deactivation, the removal of a significant contaminant (i.e., hydrocarbon compounds) from the spent catalysts contained within the CD Modules® is also a significant step in the initial reclamation of the CD Modules®. Removal of hydrocarbon compounds renders the spent catalysts contained within the CD Modules® amenable to subsequent reclamation (i.e., recovery) of the metals value of the partially reclaimed spent catalysts contained within the CD Modules®.

Specific procedures and protocol for the deactivation of the CD Modules®, prior to their removal from hydroprocessing reactors, are considered proprietary. On October 31, 2007, CDTECH submitted a single character request pursuant to Title 33, Part 1, Subpart 1, Chapter 5, Section 503 of the Louisiana Administrative Code, which provided an example of CDTECH's Supervisory Operating Manual, defining the procedures and protocol for the initial reclamation of the CD Modules® within hydroprocessing reactors as a confidential document supporting Motiva's and CDTECH's variance request.

Subsequent Reclamation As previously noted, following their initial reclamation within Motiva's hydroprocessing reactors, the CD Modules® require subsequent reclamation to recover the metals value contained within the CD Modules®. The physical form of the CD Modules® requires separation of the partially reclaimed (i.e., deactivated) spent catalysts from the stainless steel mesh containers of the CD Modules®. To accomplish this requirement, CDTECH has secured the established and demonstrated materials handling capabilities of Techemet LLC (Techemet) under a tolling agreement.

Techemet operates a metals reclamation facility in Pasadena, Texas, for the management and recovery of both precious and commodity metals. Techemet was established in 1987 to support the reclamation of platinum group metals from spent catalysts in automobile catalytic converters. Techemet's extensive experience in the removal of spent catalyst from containers provides a significant contribution to CDTECH's alternative processing applications.

On July 03, 2007, pursuant to Title 30 of the Texas Administrative Code, under TAC §§ 335.18(a)(3), 335.19(c), and 335.21, Techemet was granted a variance from classification as a solid waste under the authority of the Texas Commission on Environmental Quality.

(TCEQ) The variance granted by the TCEQ was for CDTECH's CD Modules[®] following the initial reclamation of the CD Modules[®] within hydroprocessing reactors at petroleum refining facilities within the state of Texas. A copy of the TCEQ's variance determination is included as an attachment (**Attachment B**) to this document.

Techemet's tolling agreement with CDTECH is considered proprietary. On October 31, 2007, CDTECH submitted a single character request pursuant to Title 33, Part 1, Subpart 1, Chapter 5, Section 503 of the Louisiana Administrative Code, which provided an example of CDTECH's tolling agreement with Techemet as a confidential document supporting Motiva's and CDTECH's variance request.

Subsequent reclamation of the metals value contained within the partially reclaimed spent catalysts following their separation from the stainless steel mesh containers of the CD Modules[®] is typically accomplished by the metals reclamation and primary metals refining industries. These commercial facilities require the partially reclaimed spent catalysts to be shipped to their facilities in more traditional containers (e.g., flo-bins, super sacks, drums, etc.) which are amenable to their on-site materials handling equipment and manufacturing processes. CDTECH maintains contracts negotiated with commercial facilities that perform subsequent reclamation of the commodity metals contained within the partially reclaimed spent catalysts that have been separated from the CD Modules[®].

Precedent Variances On May 11, 2005, the TCEQ issued a variance from the definition of solid waste to DuraTherm, Inc. (DuraTherm). The variance granted by the TCEQ was for partially reclaimed spent petroleum refining catalysts (i.e., K171 and K172) following their initial reclamation within a thermal desorption unit. The TCEQ based its determination on initial reclamation being achieved through deactivation and hydrocarbon removal. The TCEQ acknowledged that both deactivation and hydrocarbon removal qualified as forms of initial reclamation and represented the basis for the granting of the variance. A copy of the TCEQ's decision, including DuraTherm's variance request, has been provided as an attachment (**Attachment C**) to this document.

On July 03, 2007, pursuant to Title 30 of the Texas Administrative Code, under TAC §§ 335.18(a)(3), 335.19(c), and 335.21, CDTECH was granted a variance from classification as a solid waste under the authority of the Texas Commission on Environmental Quality (TCEQ). The variance granted by the TCEQ was for CDTECH's CD Modules[®] following the initial reclamation of the CD Modules[®] within hydroprocessing reactors at petroleum refining facilities within the state of Texas. The TCEQ acknowledged that both deactivation and hydrocarbon removal qualified as forms of initial reclamation, and represented the basis for the granting of the variance. A copy of the TCEQ's variance determination is included as an attachment (**Attachment D**) to this document.

Requested Action

Motiva and CDTECH request the LDEQ to grant a variance from classification as a solid waste pursuant to the provisions 33 LAC §105 O 1(c) for CD Modules® following the initial reclamation of the CD Modules® within hydroprocessing reactors operated by Motiva at its Norco refinery. As previously noted, Motiva has an established licensing agreement with CDTECH which enables Motiva to utilize CDTECH's CD Modules® within hydroprocessing reactors at its Norco refinery.

The initial partial reclamation of the CD Modules® prior to their removal from the hydroprocessing reactors is accomplished through the performance of the procedures and protocol specified within CDTECH's Supervisory Operating Manual for the deactivation of the CD Modules®. The terms of Motiva's and CDTECH's licensing agreement assure that the specific procedures and protocol for the deactivation of the CD Modules® specified within CDTECH's Supervisory Operating Manual are adhered to and accomplished prior to the removal of the CD Modules® from Motiva's hydroprocessing reactors. The terms of the licensing agreement also assures CDTECH the option to retain ownership of the CD Modules® which enables CDTECH to conduct subsequent reclamation of the CD Modules® under its established tolling agreement with Techemet.

Motiva's and CDTECH's requested variance is limited to partially reclaimed CD Modules® that are initially reclaimed within hydroprocessing reactors operated by Motiva at its Norco refinery. In addition, Motiva's and CDTECH's requested variance is limited to partially reclaimed CD Modules® that are destined for subsequent reclamation of metals value contained within the CD Modules®.

33 LAC §105 O 2(c) *Standards and Criteria for Variances from Classification as a Solid Waste* states as follows:

The administrative authority may grant requests for a variance from classifying as a solid waste those materials that have been reclaimed but must be reclaimed further before recovery is completed if, after initial reclamation, the resulting material is commodity-like (even though it is not yet a commercial product and has to be reclaimed further).

Motiva's and CDTECH's request is based on the fact that the CD Modules® are partially reclaimed prior to their removal from hydroprocessing reactors operated by Motiva at its Norco refinery and are far more commodity-like than waste-like based on the monetary value of the recoverable metals contained within the CD Modules® which must undergo further reclamation before the recovery of their metals value is complete.

The regulations under 33 LAC §105 O 2(c) stipulate the criteria the administrative authority is to apply in determining whether to grant a variance from classification as a

solid waste for materials that have been reclaimed but must be reclaimed further before recovery is completed. The criteria set forth are as follows:

- i *The degree of processing the material has undergone and the degree of further processing that is required*
- ii *The value of the material after it has been reclaimed,*
- iii *The degree to which the reclaimed material is like an analogous raw material*
- iv *The extent to which an end market for the reclaimed material is guaranteed*
- v *The extent to which the reclaimed material is handled to minimize loss and*
- vi *Other relevant factors*

The criteria listed above are based on determining whether the partially reclaimed material is more commodity-like rather than waste-like. This intention was stipulated in the pre-amble to the regulations in Federal Register Volume 50 Number 3 January 04 1985 Page 655.

i the degree of processing the material has undergone and the degree of further processing that is required,

Prior to their removal from hydroprocessing reactors operated by Motiva at its Norco refinery, the CD Modules[®] are subjected to a specific and consistent initial reclamation process (i.e., deactivation). The deactivation process, which is required by CDTECH's licensing agreements and based on procedures and protocols specified within CDTECH's Supervisory Operating Manual for the deactivation of the CD Modules[®], involves controlled oxidation (i.e., oxidizing the CD Modules[®] in the reactor) until the spent catalysts contained within the CD Modules[®] no longer exhibit any self-heating properties (i.e., reactivity D003). The deactivation process also removes hydrocarbon compounds to the point where the spent catalysts contained within the CD Modules[®] contain minimal residual hydrocarbons.

Deactivation and hydrocarbon removal represent the initial reclamation step (i.e., partial reclamation) required to assure that the CD Modules[®] are inert prior to their removal from the reactor and capable of being managed as a commodity material. The initial reclamation step is also required to remove the majority of residual hydrocarbons, which are a significant contaminant that interferes with subsequent metals reclamation processes.

Following the initial reclamation of the CD Modules® within hydroprocessing reactors operated by Motiva at its Norco refinery (i.e. deactivation and hydrocarbon removal) subsequent reclamation is required to separate the partially reclaimed spent catalysts from the CD Modules® stainless steel mesh containers. As previously noted, Techemet's established and demonstrated materials handling capabilities provide CDTECH with the capabilities to remove the partially reclaimed spent catalysts from the CD Modules®. Following the removal of the partially reclaimed spent catalysts from the CD Modules®, the spent catalysts are consolidated in more traditional containers and volumes (e.g. flo-bins, drums, etc.) which are amenable for additional subsequent reclamation.

Additional subsequent reclamation of the partially reclaimed spent catalysts that have been separated from the CD Modules® is typically accomplished by the metals reclamation and primary metals refining industries. CDTECH operates contracts negotiated with commercial facilities that perform subsequent reclamation of the commodity metals from the partially reclaimed spent catalysts that have been separated from the CD Modules®.

ii the value of the material after it has been reclaimed,

Following initial reclamation (deactivation and hydrocarbon removal), the value of the recoverable metals contained within the partially reclaimed CD Modules® is dependent on commercial considerations influenced by the national and international metals markets. The recoverable value for stainless steel, which comprises the physical structure of the stainless steel mesh containers that comprise the partially reclaimed CD Modules®, is approximately one dollar per pound. Molybdenum is priced on the international metals market at \$30 to \$35 per pound. Cobalt is priced on the international metals market at \$40 to \$48 per pound. Nickel is priced on the international metals market at \$12 to \$14 per pound.

The amount of recoverable metals contained within the partially reclaimed CD Modules® vary dependent upon catalyst specifications provided to CDTECH by Motiva. The spent catalysts contained within the partially reclaimed CD Modules® consistently have concentrations of recoverable metals (i.e. molybdenum, cobalt and nickel) ranging from 10 to 35 percent by weight. The amount of recoverable stainless steel contained within the partially reclaimed CD Modules® remains consistent based on the structural configuration requirements of the CD Modules®.

Based on conservative estimates for the concentration of metals contained within the CD Modules®, the value of partially reclaimed CD Modules® is significant. Assuming an average molybdenum concentration of 10 percent by weight, a ton of spent catalysts contained within the partially reclaimed CD Modules® contains 200 pounds of molybdenum, worth approximately 6,000 to 7,000 U.S. dollars. Even if the cost of

subsequent reclamation reduces the value of the partially reclaimed CD Modules® the remaining value of the end products is significant

In addition partially reclaimed CD Modules® inherently contain a combination of two or more recoverable metal (e.g. nickel and cobalt, molybdenum and cobalt, etc.) which provides additional value. The remaining materials balance for the spent catalysts contained within the partially reclaimed CD Modules® is comprised of the catalyst alumina oxide substrate (i.e. the high surface area structural component of the catalyst). Currently the end uses and recoverable value for alumina oxide is variable. However there is a well established market for its use in a variety of commercial products.

iii the degree to which the reclaimed material is like an analogous raw material,

Raw materials which are analogous to the materials recovered from the partially reclaimed CD Modules® are non renewable resources. Continued mining of natural ore deposits is the only alternative to the recovery of these valuable resources. Therefore the recovery of the non renewable resources contained within the partially reclaimed CD Modules® is of significant importance to maintaining a sustainable metals market.

High grade natural ore deposits contain only minimal amounts of molybdenum, cobalt and nickel. Commercial deposits contain average concentrations of 0.5 percent molybdenum, 2.0 percent nickel and 0.05 percent cobalt. The low concentrations of metals within the natural ore deposits results in the removal of massive volumes of overburden and requires significant amounts of energy and resources for the mining industry to refine and concentrate the ore.

The process of concentrating the ore utilizes hydraulic floatation and leaching techniques which result in the disposal of additional massive volumes of tailings and waste waters. The metal concentrates are further processed to form technical grade metal oxides or metal compounds which are used to manufacture a wide variety of commercial products.

The materials recovered from the partially reclaimed CD Modules® are primarily metal oxides ranging from five to 35 percent by weight and analogous to metals concentrates produced from natural ores. Following the initial partial reclamation of the CD Modules® (i.e. deactivation and hydrocarbon removal) the metal oxides are capable of being separated from the partially reclaimed CD Modules® and recovered using subsequent reclamation processes (e.g. hydrometallurgical or solvent extraction) to produce technical grade metal oxides or directly used as effective substitutes for commercial metals concentrates in smelting operations.

iv the extent to which an end market for the reclaimed material is guaranteed,

As previously noted the materials recovered (i.e. reclaimed materials) from the partially reclaimed CD Modules[®] are non renewable resources. Therefore an extensive and sustainable national and international end market exists for their long term use. Materials recovered from the partially reclaimed CD Modules[®] include stainless steel molybdenum cobalt and nickel.

Stainless steel molybdenum cobalt and nickel have well established markets. Stainless steel is directly recycled. Molybdenum is used in the manufacturing of tool and high speed steels cast iron super alloys (i.e. nickel and titanium based alloys) catalysts pigments corrosion inhibitors and lubricants. Cobalt is used in the manufacturing of super alloys cemented carbides magnets catalysts electroplating pigments and battery electrodes. Nickel is used in the manufacturing of stainless steel tubular metal products electroplating catalysts non-ferrous alloys and chemicals.

v the extent to which the reclaimed material is handled to minimize loss,

As previously noted Motiva and CDTECH have an established licensing agreement. The terms of Motiva's and CDTECH's licensing agreement assure that the specific procedures and protocol for the deactivation of the CD Modules[®] specified within CDTECH's Supervisory Operating Manual are adhered to and accomplished prior to the removal of the CD Modules[®] from Motiva's hydroprocessing reactors.

In addition the terms of the licensing agreement also assures CDTECH the option to retain ownership of the CD Modules[®] which enables CDTECH to conduct subsequent reclamation of the partially reclaimed CD Modules[®] under its established tolling agreement with Techemet. Based on conservative estimates for the concentration of metals contained within the partially reclaimed CD Modules[®] the value of partially reclaimed CD Modules[®] is significant. Therefore the ability to conduct subsequent reclamation of the partially reclaimed CD Modules[®] provides significant financial incentive for Motiva and CDTECH to minimize potential loss of recoverable materials during the management storage and transport of the partially reclaimed CD Modules[®].

Furthermore the physical integrity of the partially reclaimed CD Modules[®] provides for efficient materials handling transport and storage. Following their removal from hydroprocessing reactors at petroleum refineries the CD Modules[®] retain their modular structure and are capable of being stacked on pallets and wrapped with weather-proofing materials for storage and shipment as a commodity material. The United States Department of Transportation (U.S. DOT) has approved the international transport of CD Modules[®] on shrink-wrapped pallets. A copy of the U.S. DOT's approval notification has been included as an attachment (**Attachment E**) to this document.

vi other relevant factors

The LDEQ's ability to grant a variance from classification as a solid waste for materials that have been reclaimed but must be reclaimed further before recovery is completed is well established. The LDEQ has administrative authority to receive, review, and grant variances from the definition of a solid waste, and regulations under 33 LAC §105 O 2(c) stipulate the criteria the administrative authority is to apply in determining whether to grant a variance from classification as a solid waste for materials that have been reclaimed but must be reclaimed further before recovery is completed.

The U.S. EPA has recently restated its established position regarding the authority of authorized state agencies to grant variances from the definition of solid waste. On February 21, 2006, the U.S. EPA clarified that authorized states have reasonable latitude to case-by-case situations within their state. A copy of the U.S. EPA's position statement has been included as an attachment (**Attachment F**) to this document.

Summary

Based on the information provided within this document and its attachments, Motiva and CDTECH consider partially reclaimed CD Modules[®] to be clearly commodity like under each of the criteria set forth under 33 LAC §§ 105 O 2(c). Therefore, pursuant to the provisions of 33 LAC §105 O 1(c), Motiva and CDTECH request the LDEQ to grant a variance from classification as a solid waste for CD Modules[®] following the initial reclamation of the CD Modules[®] within hydroprocessing reactors operated by Motiva at its Norco refinery located in Norco, Louisiana.

The initial partial reclamation of the CD Modules[®] prior to their removal from the hydroprocessing reactors is accomplished through the performance of the procedures and protocol specified within CDTECH's Supervisory Operating Manual for the deactivation of the CD Modules[®]. The terms of Motiva's and CDTECH's licensing agreement assure that the specific procedures and protocol for the deactivation of the CD Modules[®] specified within CDTECH's Supervisory Operating Manual, are adhered to and accomplished prior to the removal of the CD Modules[®] from Motiva's hydroprocessing reactors. The terms of the licensing agreement also assures CDTECH the option to retain ownership of the CD Modules[®] which enables CDTECH to conduct subsequent reclamation of the CD Modules[®] under its established tolling agreement with Techemet.

Motiva's and CDTECH's requested variance is limited to partially reclaimed CD Modules[®] that are initially reclaimed within hydroprocessing reactors operated by Motiva at its Norco refinery. In addition, Motiva's and CDTECH's requested variance is limited to partially reclaimed CD Modules[®] that are destined for subsequent reclamation of metals value contained within the CD Modules[®].

The granting of Motiva's and CDTECH's variance request is warranted and justified to promote and advance the recovery of valuable non renewable resources and help to sustain CDTECH's alternative catalytic processing applications which provide significant environmental benefit to Motiva and the state of Louisiana

Attachments (6)

Attachment A Photograph CD Modules®

Attachment B TCEQ's Variance Determination for Techemet

Attachment C TCEQ's Variance Determination for DuraTherm

Attachment D TCEQ's Variance Determination for CDTECH

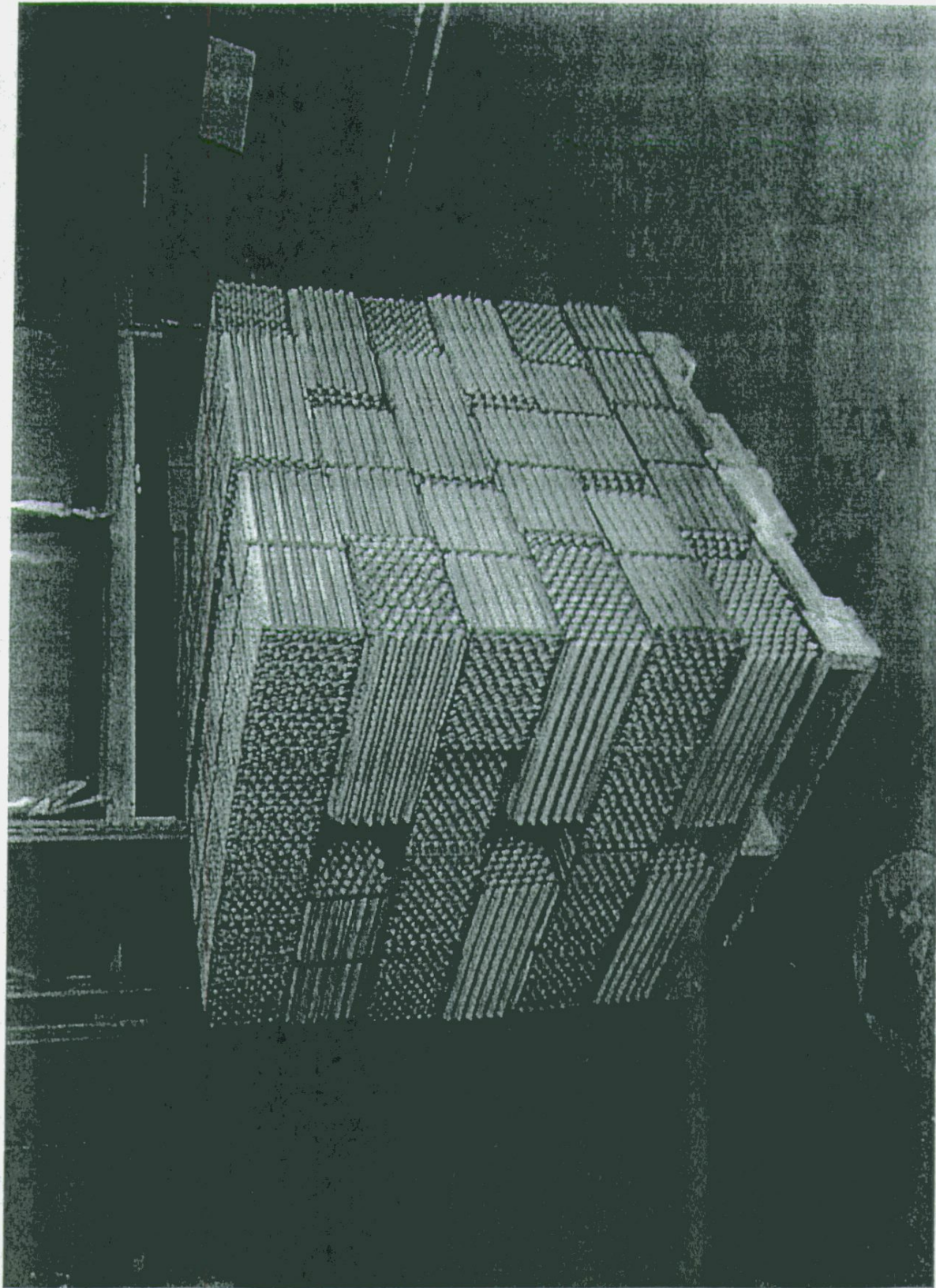
Attachment E U S DOT Approval Notification

Attachment F U S EPA Position Regarding Variances by Authorized States

Attachment A

Photograph, CD Modules®

ATTACHMENT A



CD MODULES®

Attachment B

TCEQ's Variance Determination for Techemet

Kathleen Hartnett White *Chairman*
Larry R. Soward *Commissioner*
H. S. Buddy Garcia *Commissioner*
Glenn Shankle *Executive Director*



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

July 3, 2007

Mr. Edward Albrecht
Techemet LLP
6025 Genoa Red Bluff Road
Houston, TX 77507

Re: Granting of a Variance From the Definition of a Solid Waste for K171 and K172 Catalysts
Solid Waste Registration Number: 87353
Central Registry Reference Number: 103939427
Central Registry Customer Number: 601690415
Mail Log Number: 6613

Dear Mr. Albrecht:

By this letter, the Texas Commission on Environmental Quality (TCEQ) grants a joint variance from the definition of a solid waste pursuant to 30 Texas Administrative Code (TAC) Section 335.19(c) to CDTech and Techemet. The variance is for catalysts manufactured by CDTech referred to as CD Modules, having the Environmental Protection Agency hazardous waste codes of K171 or K172 that are sent to Techemet's facility located at 6025 Genoa Red Bluff Road in Pasadena, Texas for continued reclamation subsequent to the reclamation which has already occurred at the petroleum refinery that generates the catalysts. The variance commences at the refinery at which the catalysts are first generated and remains valid so long as the following conditions are met:

- The activity of transport and management of the catalysts shall not create a discharge or imminent threat of discharge into or adjacent to the waters of the state, the creation and maintenance of a nuisance, a violation of Section 26.121 of the Texas Water Code, or a violation of any applicable provisions of the air regulations;
- The contractual agreements and obligations between CDTech and the petroleum refineries with which it has licensing agreements and between CDTech and Techemet are accurate, complete, and as presented to the TCEQ in the joint application upon which this variance is based, and there is strict compliance with the terms of those agreements and obligations;
- The catalysts are deactivated prior to leaving the units at the petroleum refinery at which the catalysts are first generated (at a minimum, this shall mean that the catalysts do not exhibit the characteristics of ignitability (D001) or reactivity (D003), shall not be pyrophoric, shall meet all of the standards and criteria for being deactivated found in the Supervisory Operating Manual portion of the joint variance application, and shall meet all U.S. Department of Transportation regulations and conditions for shipment) and

Mr Edward Albrecht

Page 2

July 3 2007

- All records of how the catalysts are recycled at Techemet s facility shall be maintained in an easy to retrieve and easy to copy format

Please be reminded that should any substantive changes occur in the storage or management of the catalysts at the Techemet facility Techemet is required to provide written notification of that fact and detailed information about it in a timely manner to the Industrial and Hazardous Waste Permits Section of the TCEQ and the TCEQ Region 12 Office

Questions regarding this matter should be directed to Mr Boultinghouse at the address provided above or by telephone at (512) 239 6865

Sincerely



Jacqueline S Hardee P E Director
Waste Permits Division
Texas Commission on Environmental Quality

ISH/JKB/fp

cc Mr Charles Daigle Catalyst Recovery Manager CDTech Pasadena
Mr Robert Phelan Environmental Issues Management L L C Covington LA

Attachment C

TCEQ's Variance Determination for DuraTherm

Kathleen Hartnett White *Chairman*
R B Ralph Marquez *Commissioner*
Larry R Soward *Commissioner*
Ann Shankle *Executive Director*



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

May 11 2005

Mr Mark L Byford
EH&S Manager
DuraTherm Inc
P O Box 58466
Houston TX 77258 8466

Re Notification of the Granting of a Variance From the Definition of a Solid Waste
Solid Waste Registration Number 44814
CN 100890235 /RN 600564165
Mail Log Number 4773

Dear Mr Byford

This is to inform you that the Texas Commission on Environmental Quality (TCEQ) is hereby granting DuraTherm's request for a variance from the definition of a solid waste for a material generated at DuraTherm's San Leon Texas facility. This is the same material described in your December 29 2004 letter as molybdenum and nickel bearing material produced by the initial reclamation of spent petroleum catalyst having the Environmental Protection Agency hazardous waste codes K171 and K172.

The TCEQ is granting this variance based on the following factors: First the information submitted in your letter of December 29 2004 satisfies the requirements of Title 30 Texas Administrative Code (TAC) Section 335.19(c). Second there have been no comments received by the TCEQ from the public in response to the announcement made by DuraTherm on March 17 2005 seeking public comment regarding granting the variance as required under 30 TAC Section 335.21(2) within the thirty day period mandated by 30 TAC Section 335.21(2).

Please note that all communication regarding the granting of this variance as well as notification of any changes that may affect the conditions under which this variance has been granted should be directed to the Industrial and Hazardous Waste Permits Section at the following mailing address:

Texas Commission on Environmental Quality
Waste Permits Division
Industrial and Hazardous Waste Permits Section MC 130
Post Office Box 13087
Austin Texas 78711 3087

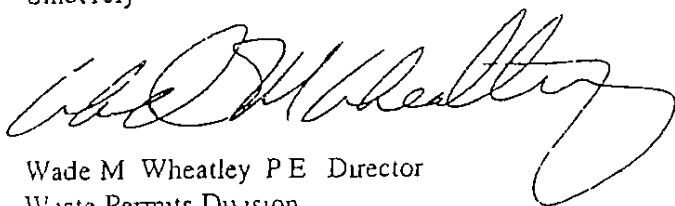
Mr Mark L Byford
Page 2
May 11 2005

Please also note that copies of all correspondence related to the variance should also be sent to the Director of TCEQ Region 12 at the following mailing address

Texas Commission on Environmental Quality
Region 12 Office
5425 Polk Avenue Suite H
Houston Texas 77023 1486

If you have any questions regarding this matter please contact either Mr Scott Green or Mr Jesse Boultinghouse of the Industrial and Hazardous Waste Permits Section at the address given above or by calling (512) 239 6412

Sincerely

A handwritten signature in black ink, appearing to read "Wade M. Wheatley". The signature is fluid and cursive, with a large loop at the end.

Wade M Wheatley P E Director
Waste Permits Division
Texas Commission on Environmental Quality

WMW/JB/ff



JAN 9, 2005

December 29, 2004

Mr. Glenn Shankle
Executive Director
Texas Commission on Environmental Quality
P O Box 13087 (MC 109)
Austin Texas 78711 3087

Request for Variance from Classification as a Solid Waste

Dear Mr. Shunkle

Pursuant to 30 TAC §§ 335.18(a)(3), 335.19(c), and 335.21, DualTherm Inc. (DualTherm) requests a variance from classifying as a solid waste the molybdenum and nickel bearing material that it produces from its initial reclamation of the metals contained in spent catalysts from petroleum refining K171 and K172 but that must be reclaimed further before recovery is completed.

This putatively reclaimed metal bearing material is commodity like based upon consideration of the following six factors enumerated in 30 TAC § 335.19(c)

- (1) The degree of processing the material has undergone and the degree of further processing that is required

DuraTherm processes the K171 and K172 that it receives from petroleum refineries in the Gulf Coast area by high temperature thermal treatment in one or both of the two patented thermal desorber units at its San Leon hazardous waste recycling facility operating under its recently renewed Hazardous Waste Permit No. 50355. By means of this thermal desorption, the organic constituents in the spent catalysts are reduced to less than universal treatment standards (UTS).

Once DuraTherm has removed the VOCs and other organic hydrocarbons and with them any ignitability characteristic the further processing that is required is essentially the same as that applied to the powdered or pelletized molybdenum concentrate typically produced from molybdenum ore as an intermediate step in production of pure molybdenum or in the production of molybdic oxide or ferromolybdenum used to produce high grade iron and steel alloys. The actual refining process will depend on the ultimate use of the material produced by DuraTherm but typically it will undergo smelting or other thermal or chemical metal separation processes.

DUE DATE 4/25/24 DOC #

DUE DATE 4/25/04 DOC # _____

WICH

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TEAM 01 02 03 04

(2) *The value of the material after it has been reclaimed*

In December 2004, pure bulk molybdenum metal has been priced on world commodity markets at \$30 - \$35/lb. Nickel is priced at over \$6/lb. With the molybdenum content of the material produced by DuraTherm at 10% - 20% by weight and the nickel content at approximately 20%, the value of DuraTherm's intermediate product is obviously quite high at today's prices. Assuming an average molybdenum concentration of 15%, one ton of DuraTherm product would yield 300 pounds of molybdenum worth approximately \$10,000. Even if the cost of further reclamation reduces the value to DuraTherm as much as 75%, this still means that the value of the intermediate product produced by DuraTherm would be approximately \$2,500/ton.

Therefore, just considering only the value attributable to the molybdenum contained in the material produced by DuraTherm, the millions of dollars of value that is represented by the thousands of tons of spent refinery catalysts that DuraTherm routinely processes each year at its San Leon facility is readily recognizable. Applying similar math to the 20% nickel content of the material adds approximately \$600 per ton to the value of the material in DuraTherm's hands.

(3) *The degree to which the reclaimed material is like an analogous raw material*

High grade molybdenum ores contain only 2% to 3% molybdenum. Once the ore is concentrated (typically by a flotation process at or near the mine), the resulting molybdenum concentrate, usually a fine powder but sometimes pelletized, typically contains 30% - 60% molybdenum. Therefore, the material produced by DuraTherm with a molybdenum content of 10% - 20%, is more analogous to the molybdenum concentrate that is the usual feedstock for molybdenum smelters and other refining processes than to the much less concentrated ores that represent an earlier stage raw material in the metal production process.

(4) *The extent of which an end market for the reclaimed material is guaranteed*

A very extensive market exists for molybdenum. In alloy steel, molybdenum acts as a hardening agent and also improves the properties of the alloy at high temperatures. Such alloys are used in making high speed cutting tools, aircraft parts, and forged automobile parts. The pure metal in the form of thin sheets or wire is used in X-ray tubes, electronic tubes, and electric furnaces because it can withstand high temperatures. Useful compounds of molybdenum include molybdenum disulfide, used as a lubricant; ammonium molybdate, used in chemical analysis for phosphates; and lead molybdate, used as a pigment in ceramic glazes.

Particularly at current world prices, both molybdenum ore (roasted and unroasted) and molybdenum concentrate are themselves widely bought and sold on world markets, with substantial overseas shipments of each, particularly to China.

Therefore, at current and reasonably foreseeable prices, the market for DuraTherm's high molybdenum concentration product is very strong and virtually assured.

(5) *The extent to which the reclaimed material is handled to minimize loss*

At a current value in DuraTherm's hands of \$2,500 - \$3,000/ton DuraTherm would have great incentive to minimize the loss of this material, even if it presented no environmental risk. However, as the agency knows, DuraTherm is a permitted hazardous waste management facility, with many years of experience in the safe handling of material that is much more hazardous, and this intermediate reclaimed product will be handled in a manner consistent with this experience.

Once the organic constituents have been removed from the catalysts by DuraTherm's permitted thermal desorption process, the partially reclaimed material is placed in the same steel roll-off containers and/or supersacks used for storage and transportation of hazardous waste. The supersacks are sealed from the elements. The roll-off boxes are covered by tarpaulins to prevent entry of rain and disturbance by wind. While the boxes and supersacks of the material are being stored at DuraTherm's San Leon facility awaiting transport, they will be kept within covered or bermed areas or otherwise managed in a manner consistent with the best management practices specified in DuraTherm's storm water pollution prevention plan, as required by its industrial storm water general permit.

The material will be transported by truck, rail, or vessel to its ultimate reclamation destination in the sealed supersacks and covered roll-off boxes, in essentially the same manner as hazardous waste (absent a manifest). The ultimate reclamation facility will manage the material as required by applicable law and the facility's permits (e.g., air and storm water permits).

(6) *Other relevant factors*

No hazardous constituent will be just along for the ride with the material produced by DuraTherm. All hazardous organic compounds will have been removed by DuraTherm's thermal desorption process. The only remaining potentially hazardous substances are metals (e.g., nickel, vanadium, and arsenic) that are routinely managed safely in the smelting and other metal extraction procedures to which the material will be subjected in order to recover the molybdenum.

By facilitating the recycling of this intermediate reclaimed product, the TCEQ would be helping to conserve the earth's natural resources, reduce the scarring and dangers of open pit molybdenum mining, and avoid the air and water pollution inherent in the mining and processing of molybdenum ores. Further, the TCEQ would avoid the costs, risks, and public objections that come with the use of limited landfill space for disposal of the entire volume of this material as waste.

In conclusion, DuraTherm invites the TCEQ to assist in its environmentally protective and cost-beneficial molybdenum reclamation venture and requests the Executive Director to grant this its request for a variance from classifying as a solid waste the molybdenum and nickel-bearing material that it produces by its initial reclamation of the metals contained in the K171

Mr Glenn Shankle
December 29, 2004

Page 4

and K172 catalysts that it receives from petroleum refineries. If you have any questions or desire any further information please call me at 281 339 1352

Sincerely



Mark L. Byford EH&S Manager
DuraTherm Inc

cc Scott Green
Project Manager
Industrial Hazardous Waste Permit Section
Waste Permits Division
Texas Commission on Environmental Quality
P O Box 13087 (MC 130)
Austin Texas 78711 3087

Jackson Battle
Brown McCarroll L L P
111 Congress Avenue
Suite 1400
Austin Texas 78701

Leigh Ing, P E
Leigh Ing Consulting
1307 Marshall Lane
Austin TX 78703

Attachment D

TCEQ's Variance Determination for CDTECH

Kathleen Hartnett White *Chairman*
Harry R. Soward *Commissioner*
Buddy Garcia *Commissioner*
Glenn Shankle *Executive Director*



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

July 3, 2007

Mr. Charles Daigle, Catalyst Recovery Manager
CDTech
10100 Bay Area Boulevard
Pasadena, TX 77507

Re: Granting of a Variance From the Definition of a Solid Waste for K171 and K172 Catalysts
Mail Log Number 6613

Dear Mr. Daigle:

By this letter, the Texas Commission on Environmental Quality (TCEQ) grants a joint variance from the definition of a solid waste pursuant to 30 Texas Administrative Code (TAC) Section 335.19(c) to CDTech and Techmet. The variance is for catalysts manufactured by CDTech referred to as "CD Modules" having the Environmental Protection Agency hazardous waste codes of K171 or K172 that are sent to Techmet's facility located at 6025 Genoa Road, Bluff Road in Pasadena, Texas for continued reclamation subsequent to the reclamation which has already occurred at the petroleum refinery that generates the catalysts. The variance commences at the refinery at which the catalysts are first generated and remains valid so long as the following conditions are met:

- The activity of transport and management of the catalysts shall not create a discharge or imminent threat of discharge into or adjacent to the waters of the state, the creation and maintenance of a nuisance, a violation of Section 26.121 of the Texas Water Code, or a violation of any applicable provisions of the air regulations.
- The contractual agreements and obligations between CDTech and the petroleum refineries with which it has licensing agreements and between CDTech and Techmet are accurate, complete, and as presented to the TCEQ in the joint application upon which this variance is based, and there is a strict compliance with the terms of those agreements and obligations.
- The catalysts are deactivated prior to leaving the units at the petroleum refinery at which the catalysts are first generated (at a minimum, this shall mean that the catalysts do not exhibit the characteristics of ignitability (D001) or reactivity (D003), shall not be pyrophoric, shall meet all of the standards and criteria for being deactivated found in the Supervisory Operating Manual portion of the joint variance application, and shall meet all U.S. Department of Transportation regulations and conditions for shipment) and
- All records of how the catalysts are recycled at Techmet's facility shall be maintained in an easy-to-retrieve and easy-to-copy format.

Mr Charles Daigle


Page 2

July 3 2007

Please be reminded that should any substantive changes occur in the storage or management of the catalysts at the Techemet facility Techemet is required to provide written notification of that fact and detailed information about it in a timely manner to the Industrial and Hazardous Waste Permits Section of the TCEQ and the TCEQ Region 12 Office

Questions regarding this matter should be directed to Mr Boultinghouse at the address provided above or by telephone at (512) 239 6865

Sincerely

A handwritten signature in cursive script that reads "Jacqueline S. Hardee".

Jacqueline S Hardee P.E. Director

Waste Permits Division

Texas Commission on Environmental Quality

JSH/JKB/fp

cc Mr Edward Albrecht Techemet Houston

Mr Robert Phelan Environmental Issues Management L.L.C. Covington LA

Attachment E

U S DOT Approval Notification

person will be notified and provided with an opportunity to show why the proposed action should not be taken

b Each "Hazmat employee", as defined in § 171.8, who performs a function subject to this approval must be provided training on the requirements and conditions of this approval in addition to the training required by §§ 172.700 through 172.704

c Any person operating under the terms of this approval must comply with the security plan requirement in Subpart I of Part 172 of the HMR, when applicable

Issued in Washington, D C

Dated April 25, 2006

Approved by

A handwritten signature in black ink, appearing to read "Robert A. McGuire", is written over a horizontal line.

Robert A McGuire
Associate Administrator for
Hazardous Materials Safety

Address all inquiries to Associate Administrator for Hazardous
Materials Safety Pipeline and Hazardous Materials Safety
Administration Department of Transportation Washington, D C
20590 Attention PHH-32



U S Department
of Transportation

400 Se e th Street SW
Washi gton D C 20590

Pipeline and
Hazardous Materials
Safety Administration

APPROVAL CA 006040030
ISSUED BY THE COMPETENT AUTHORITY OF THE UNITED STATES
(EXPIRATION DATE 04-30-2011)

- 1 **APPROVAL HOLDER** Catalytic Distribution Technologies
10100 Bay Area Blvd
Pasadena TX 77507
- 2 **REGULATORY AUTHORITY** Section 7.9 of the International
Maritime Dangerous Goods (IMDG) Code
- 3 **SYNOPSIS** This approval authorizes the transportation of
certain types of environmentally hazardous substance,
solid n o s Class 9, UN3077, PGIII in a sift-proof, bulk
shipping container
- 4 **BASIS** This approval is issued in response to an
application from Catalytic Distillation Technologies dated
January 19 2006
- 5 **PERIOD OF VALIDITY AND CONDITIONS OF APPROVAL** This
approval does not provide relief from any requirements of
the Hazardous Materials Regulations, or the IMDG Code
except as stated herein. This approval is valid until the
posted expiration date above or unless terminated by the
Associate Administrator for Hazardous Materials Safety

a **Approved Materials** Only the following materials may
be transported under the terms of this approval

Proper shipping name-Hazardous materials description	Hazard Class/ Division	Identifi- cation Number	Packing Group
Environmentally hazardous substance, solid, n o s , (nickel oxide catalyst)	9	UN 3077	III

Proper shipping name-Hazardous materials description	Hazard Class/ Division	Identification Number	Packing Group
Environmentally hazardous substance, solid, n o s , (cobalt-molybdenum oxide catalyst)	9	UN 3077	III
Environmentally hazardous substance, solid, n o s , (palladium oxide catalyst)	9	UN 3077	III

b Packaging The prescribed packagings are stainless steel wire mesh boxes containing spent hydrorefining catalyst in the form of extrudates and pellets. The wire boxes will be placed on fiberboard trays, shrink wrapped and securely banded to the pallets. The shrink-wrapped pallets are loaded into a 20 or 40 foot cargo container for transit.

c Marking Requirements Each package, and overpack if used, prepared under the provisions of this approval must be plainly marked with the approval number.

6 SPECIAL PROVISIONS

a A copy of this approval must accompany the shipment made under the terms of this approval.

b This approval in no way affects the need to obtain any required authorizations from other agencies of the United States Government or from the competent authorities of the countries of transit and destination.

7 GENERAL PROVISIONS

a Failure by any person to comply with the terms and conditions of this approval and the Hazardous Materials Regulations, 49 CFR Parts 171-180, or the IMDG Code may result in the modification, suspension or termination of that person's authority to use this approval. Failure to comply may also subject that person to penalties prescribed by 49 U.S.C. §§ 5123 and 5124. This approval may be modified, suspended or terminated in its entirety if that action is justified in light of changes in circumstances or additional information not available when this approval was issued. Unless immediate modification, suspension or termination is necessary to avoid a risk of significant harm to persons or property, before action is taken, that

person will be notified and provided with an opportunity to show why the proposed action should not be taken

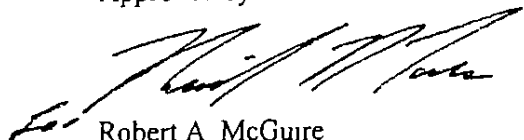
b Each "Hazmat employee" as defined in § 171.8, who performs a function subject to this approval must be provided training on the requirements and conditions of this approval in addition to the training required by §§ 172.700 through 172.704

c Any person operating under the terms of this approval must comply with the security plan requirement in Subpart I of Part 172 of the HMR when applicable

Issued in Washington, D C

Dated April 25, 2006

Approved by

A handwritten signature in black ink, appearing to read 'Robert A. McGuire', is written over a horizontal line.

Robert A McGuire
Associate Administrator for
Hazardous Materials Safety

Address all inquiries to Associate Administrator for Hazardous Materials Safety, Pipeline and Hazardous Materials Safety Administration, Department of Transportation, Washington, D C 20590 Attention PHH-32

Attachment F

U S EPA Position on Variances by Authorized States